

## Research Article

# Entrepreneurial behavior of large cardamom growers: A case study in Lamjung district of Nepal

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## ABSTRACT

Study on entrepreneurial behavior of large cardamom growers in Lamjung District, Nepal was conducted from December 2017 to June 2018 in Marshyangdi Rural Municipality of Lamjung district. The Rural Municipality was selected purposely for the study due to the recent establishment of Cardamom Zone under the Prime Minister Agriculture Modernization Project in the Municipality focusing on large cardamom development. Altogether 80 large cardamom growers were selected randomly from 454 large cardamom growers of the study site. Data were collected through household surveys, focus group discussions, key informant interviews, personal observations, and other secondary sources. Results showed that a greater proportion of large cardamom growers were found to have medium level of innovativeness (45%), decision-making ability (51.2%), information-seeking ability (48.8%), risk orientation (46.2%), leadership ability (43.8%), achievement motivation (46.2%) and low management orientation (56.3%) which contributed to the overall medium entrepreneurial behavior (47.5%) of large cardamom growers in the study area. About 35 percent of farmers were belonging to the low entrepreneurial behavior and only a few numbers of farmers (17.5%) were under the high entrepreneurial behavior category. The high number of farmers with low and medium entrepreneurial behavior and a low number of farmers with high entrepreneurial behavior has resulted in poor commercialization of large cardamom in the study area. Educational status, landholding, extension participation, economic motivation, experience in large cardamom farming, and area of large cardamom cultivation were found to have a significant correlation with the entrepreneurial behavior of large cardamom farmers while age had a negative and significant effect. There is still scope to increase the number of large cardamom farmers with high entrepreneur behavior for commercializing large cardamom in the study area but programs should be designed and implemented accordingly.

**Keywords:** Entrepreneurial behavior, large cardamom, PMAMP

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## INTRODUCTION

Large cardamom (*Amomum subulatum* Roxb.) also known as “Black gold” is an important high-value cash crop and an export commodity. National Trade Integration Strategy (NTIS, 2016) identified and listed large cardamom as one of the top agricultural commodities with high export potential among the several agricultural crops produced in Nepal. According to Bhattarai (2016), large cardamom is the most expensive commercial crop having the highest export potential of all the agricultural products produced in Nepal. Because of its ability to thrive in sloppy, marginalized and degraded lands where it is very difficult to grow other staple food crops, large cardamom can be grown successfully in most of the sloppy hills of the country; in fact, it has been the major source of income for most of the farmers residing in Eastern hilly areas of the country (ITPS, 2015). Of the total world production per annum, the largest producer of large cardamom is Nepal (52%) followed by India (37%) and Bhutan (11%) (Pothula & Singh, 2013). According to ITPS (2015), large cardamom is the world's third-most expensive spice after saffron and vanilla. The number of farmers growing large cardamom in the country is increasing because of its high global demands and high market price (Nepal National Sector Export Strategy- Large cardamom 2017-2021).

Entrepreneurship is primarily concerned with innovation, novelty, flexibility, and creativity (Klein, Mahoney, McGahan, Pitelis, 2010). An entrepreneur is a person who performs the dual function of risk-taking and control (Chopra, 1996). Entrepreneurship is the capacity for innovation and caliber to introduce innovative techniques in the business of creations. The role played by such entrepreneurs is of vital importance in developing countries like Nepal, where there are many opportunities to use innovations to exploit available resources especially in the field of agriculture. Entrepreneurship has now been recognized as a concept, not only vital for starting the industry but also in the development of agriculture. The socio-economic development of society is directly related to entrepreneurship development. Hence more attention should be given to entrepreneurship development in almost all the economic development activities.

The fact that the global demand, as well as the market price of large cardamom, is high; there is a significant scope of earning a huge amount of money from its production and efficient marketing. Thus, the commercialization of large cardamom farming is the utmost. Hence, in this regard, it is pivotal to get acquainted with the entrepreneurial behavior of large cardamom farmers. The research was carried out to assess the entrepreneurial behavior of large cardamom growers in the *Marshyangdi* Rural Municipality of Lamjung district.

## METHODOLOGY

### Selection of the study area

Lamjung district which lies in the mid-hills of Nepal is endowed with a rich diversity in agro-climatic conditions. It is one of the progressive districts of Nepal having high potential for large cardamom cultivation. The geographical location of the district lies in between latitude 28° 03' 19" to 28° 30' 38" N and 84° 11' 23" to 84° 38' 10" E longitude, covering an area of 1692 km<sup>2</sup>. The land topography ranges from 385 to 8162 meters from the sea level (DADO,

2015/16). *Marshyangdi* is the largest Rural Municipality in the Lamjung district with an area coverage of 597.25 km<sup>2</sup>. It is also the largest large cardamom producing region of the district (DADO, 2015/16). Out of the total 9 wards of the Rural Municipality, eight wards (1-8) which are under the PMAMP, Cardamom Zone, Lamjung were selected purposely for the study. The fact that Cardamom Zone has recently been established in Lamjung district under Prime Minister Agriculture Modernization Project (PM-AMP) indicates that the large cardamom cultivation area in the district has crossed more than 500 ha (as the zone should cover more than 500 ha command areas as per PM-AMP) and expresses a good promise for the future.

### **Population sample and Sampling Technique**

The study area consisted of seven hundred large cardamom growers and the sampling framework of those households was prepared. A total of eighty households were selected through random sampling for the household survey.

### **Data collection**

Primary data were collected through household surveys (HHS), focus group discussions (FGDs), key informant interviews (KII) and personal observations. A total of 80 household heads were surveyed and two FGDs were separately carried out in a group of 15 farmers representing most wards of the rural municipality at *Bhulbhule and Sera*. Secondary data were obtained from DADO annual reports, several published and unpublished literature, newspapers, magazines, bulletins, official reports, records and publications of different government and non-government offices.

### **Data analysis**

The data collected were coded, quantified, categorized and tabulated in order to make the findings more meaningful and vivid. The collected data were analyzed using Statistical Package for Social Sciences (SPSS). The findings were logically interpreted, and necessary conclusions were drawn. To convert the raw data into meaningful findings statistical tools like frequency, percentage, mean, standard deviation and correlation coefficient were calculated.

### **Variables and their Empirical Measurement**

Based on the objectives of the study, components of the entrepreneurial behavior were selected as dependent variables. The appropriate independent variables were recognized from earlier research studies. The selected variables and their empirical measurements are presented below.

### **Measurement of dependent variables of entrepreneurial behavior**

The seven components of entrepreneurial behavior were measured by the following methods.

#### **Innovativeness**

Moulik's self-rating scale (1965) as used by Sakharkar (1995) was followed to quantify the innovativeness of large cardamom farmers. The original scale comprises three sets of generalized statements. Each set of these statements contained three specific and pertinent

statements with weightages 3, 2 and 1 indicating high, medium and low degree of innovativeness respectively. After obtaining the responses as “most like” and “least like” choices as in original scale for each of the three sets of statements, score ‘3’ was assigned to ‘most like’ and score ‘1’ for ‘least like’.

The final scoring was derived by summing up the scores of the weightage of the most like statements and the weightage of the least like statements. As there will be three sets of statements for the innovativeness scale, the sums of scores for the three sets were considered for each respondent. The total score for innovativeness ranged from 18 to 54. Based on the total score obtained by respondents on innovativeness, they were grouped into low, medium and high categories, keeping the mean and standard deviation as a check.

### **Decision-making ability**

The scale developed by Supe (1969), also adopted by Rao (1985) with modifications was used to quantify the decision-making ability of large cardamom farmers. As suggested by Supe (1969), the weightages of 4, 3, 2 and 1 were assigned to the four responses – ‘self’, ‘elders’, ‘wife/husband’ and ‘children’ respectively. Hence, the score of decision-making ability for each respondent ranged from 7 to 28.

### **Information-seeking behavior**

The scale developed by Rao (1985) was used to measure the information-seeking behavior of large cardamom farmers. In the present study, the degree of frequency of contact with information sources of large cardamom farmers was classified based on the type of sources such as localite, cosmopolite and mass media. The degree of contact was measured on a four-point continuum namely frequently, occasionally, rarely and never by assigning scores of 3, 2, 1 and 0 respectively. The total score for each respondent ranged from 0 to 21.

### **Risk orientation**

In the present study, risk orientation was quantified with the help of a scale developed by Supe (1969) with suitable modifications. The responses of respondents were obtained against each statement in terms of agree and disagree. A weightage of 2 and 1 respectively were assigned to the response categories agree and disagree. The maximum and minimum score was 12 and 6 respectively. The summation of the score was done to obtain a risk orientation score for each respondent.

### **Management orientation**

The scale developed by Samanta (1977) was used in this study to quantify the management orientation of farmers. A weightage of 5, 4, 3, 2 and 1 were assigned to the response categories namely ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’ and ‘strongly disagree’ respectively. The total score for each respondent was summed up which ranged from 6 to 30.

### **Leadership ability**

The scale developed by Nandapurkar (1980) was used to determine the leadership ability of large cardamom farmers. The responses were obtained on a three-point continuum namely ‘always’, ‘sometimes’ and ‘never’. A weightage of 2, 1 and 0 respectively were assigned to

response categories respectively. The range of the total score for each respondent was from 0 to 10.

### **Achievement motivation**

This variable was quantified with the help of the procedure adopted by Chandrapaul (1998). A weightage of 3, 2 and 1 respectively were assigned to response categories namely agree, undecided and disagree. The total score for each respondent on achievement motivation was summed up which ranged from 6 to 18.

### **Measurement of independent variables**

The information about socio-economic variables like age, sex, family size, ethnicity/caste, education, landholding, experience in large cardamom farming and area of large cardamom cultivation were collected and the respondents were categorized into different groups based on mean and standard deviation. Other independent variables were measured by the following methods.

### **Extension participation**

It was operationalized as the degree to which large cardamom farmers took participation in various extension activities such as training, field days, field visits, group activities, demonstration, and tours to acquire knowledge, information, and skills on large cardamom production technology. The score was assigned based on the frequency of participation as 2, 1 and 0 for regularly, occasionally and never respectively. The total score for each respondent was obtained by summing up the score of each activity. The total score for each respondent ranged from 0 to 14. Based on the total score respondents were categorized into high, medium and low categories keeping mean and standard deviation as the measure of a check.

### **Economic motivation**

The scale developed by Supe (1969) was used to quantify this variable. Responses were obtained on a five-point continuum namely 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree'. Scores were assigned as 5, 4, 3, 2 and 1 for response categories respectively. The total score on economic motivation ranged from 6 to 30. Based on the total score respondents were categorized into high, medium and low categories keeping mean and standard deviation as the measure of a check.

## **RESULTS AND DISCUSSION**

### **Socio-economic characteristics of the respondents**

Out of the total population (454), of 80 sampled households in the study area, 52.86 percent (240) were female and 47.14% (214) were male. The population distribution of sampled households in the study area was found to be similar to that of Municipality figure of male 46.05% and female 53.95% (CBS, 2018). The average age of the respondent farmers was found to be 48 years and the average family size was found to be 5.68 which was larger than that of district average of 3.99 (CBS, 2018). The majority (88.8%) of respondents in the study area were *Janajati* (*Gurung and Tamang*), followed by Brahmin (5%), *Chhetri* (3.8%) and *Dalit* (2.4%). The literacy rate of the study site was found to be 72.5%. The average literacy rate of the district was 71.11 percent as of the 2011 census (CBS, 2018). The average

landholding of the respondents was found to be 0.864 hectares (ha). Keeping average and standard deviation as check, the farmers were categorized into three groups and half (50%) of the respondents belonged to medium scale land holding category 0.5 to 1.2 ha land holding category followed by small scale less than 0.5 ha (32.5%) and large scale greater than 1.2 ha (17.5%) landholding categories, respectively.

### Extension participation and Economic motivation

It was found that the respondents were most likely to participate in group activities as it was the most common extension methods carried out in the study area. The study revealed that the respondents (most of the time) were unaware of other extension activities conducted in the district by different government and non-government agencies. It might be because of poor information flow among the respondents or less exposure to mass media. Most of them were economically motivated to achieve their livelihood.

### Area of large cardamom cultivation and experience in large cardamom farming

The mean area of large cardamom cultivation in the study area was found to be 0.3735 ha. More than half (52.5%) of the respondents had cultivated large cardamom in 0.25 to 0.5 ha, 27.5% of respondents in less than 0.25 ha and 20% of respondents in greater than 0.5 ha. Further, 46.3% of respondents had 5 to 9 years of experience, 31.2% had less than 5 years of experience and 22.5% had greater than 9 years of experience in large cardamom farming. The average year of experience in large cardamom farming was found to be 7.13 years. Ramsey was the most popular variety of large cardamom adopted by farmers (55.38%) followed by Golsey (34.62%). Most respondents (51.25%) did not have access to the irrigation facility in their orchard. There were only a few cases of fertilizer and pesticide use in the orchard (10 respondents used organic manure only and only 4 respondents were found to use chemical pesticides).

### Entrepreneurial behavior of the respondents

**Table 1: Distribution of large cardamom farmers based on several components of entrepreneurial behavior**

Categories	Respondents			
	Frequency	Percentage (%)	Mean	SD
<b>Innovativeness (Score)</b>				
Low (< 28.99 score)	35	43.8	31.57	5.16
Medium (28.99 – 34.15 score)	36	45.0		
High (> 34.15 score)	9	11.2		
<b>Decision-making ability</b>				
Low (<16.38 score)	24	30.0	18.23	3.69
Medium (16.383-20.08 score)	41	51.2		
High (>20.08 score)	15	18.8		
<b>Information-seeking ability</b>				
Low (< 4.15 score)	32	40.0	5.08	1.87
Medium (4.149 - 6.02 score)	39	48.8		
High (> 6.02 score)	9	11.2		
<b>Risk orientation</b>				
Low (< 7.57 score)	33	41.2		



Medium (7.57 - 9.00 score)	37	46.2	8.28	1.43
High (> 9.00 score)	10	12.5		
<b>Management orientation</b>				
Low (< 11.01 score)	45	56.3		
Medium (11.01 - 12.04 score)	25	31.2	11.52	1.03
High (>12.04 score)	10	12.5		
<b>Leadership ability</b>				
Low (< 3.33 score)	32	40.0		
Medium (3.33 – 5.04 score)	35	43.8	4.18	1.71
High (> 5.04 score)	13	16.2		
<b>Achievement motivation</b>				
Low (< 7.86 score)	27	33.8		
Medium (7.86 - 10.11 score)	37	46.2	8.98	2.25
High (> 10.11 score)	16	20.0		

*Source: household survey 2017/18*

The study revealed that 45% of respondents belonged to medium innovativeness category followed by low (43.8%) and high (11.2%) innovativeness categories, respectively. The results were in conformity with the findings of Bennur (2011) and Nagesh (2006). The majority (51.2%) of respondents had medium decision-making ability followed by low decision-making ability (30%) and high decision-making ability (18.8%). The results were in accordance with the findings of Kumar (2012).

Similarly, 48.8 percent of respondents had medium followed by low (40%) and high (11.2%) information-seeking ability. The results were in agreement with the findings of Suresh (2004). It was also observed that about 46.2% of respondents belonged to medium followed by low (41.2%) and high (12.5%) risk orientation, respectively. The results were in conformity with the findings of Barik (2013) and Suresh (2004). The majority (56.2%) of respondents belonged to low, followed by medium (31.2%) and high management orientation category (12.5%). The sole credit for poor management might go to the lack of technical knowledge among large cardamom farmers.

Further, it was found that 43.8% of respondents had medium followed by low (40%) and high (16.2%) leadership ability. The results were in accordance with the findings of Gowda (2009). It was also observed that about 46.2% of the respondents belonged to medium, followed by low (33.8%) and high (20%) achievement motivation categories. The results were in agreement with the findings of Gowda (2009), Suresh (2004) and Vijay Kumar (2001).

### **Overall entrepreneurial behavior of large cardamom farmers**

The score for overall entrepreneurial behavior was obtained by summing up all the scores obtained by individual respondent farmers in each of the above seven components.

**Table 2: Overall entrepreneurial behavior of large cardamom farmers**

Category	Respondents	
	Frequency	Percentage (%)
Low (< 81.29 score)	28	35.0
Medium (81.29 - 94.46 score)	38	47.5
High (> 94.46 score)	14	17.5
Total	80	100.0

The findings of the study revealed that about 47.5% of respondents belonged to medium followed by low (35.0%) and high (17.5%) entrepreneurial behavior categories. Medium level of entrepreneurial behavior might be due to respondents' medium level of innovativeness, decision-making ability, information-seeking ability, risk orientation, management orientation, leadership ability, and achievement motivation. A large number of respondents in the low entrepreneurial behavior category has been one of the major hindrances in the commercialization of large cardamom cultivation in the study site. The lower productivity of large cardamom in Lamjung district i.e. 0.35 tons/ha in comparison to the national production of 0.531 t/ha (MoAD, 2017) might be the result of low and medium entrepreneurial behavior of the large cardamom growers of the district.

### Relationship between socio-economic characteristics and entrepreneurial behavior

**Table 3: correlation between socio-economic characteristics and entrepreneurial behavior of large cardamom farmers**

Independent variables	correlation coefficient (r)
Age	-0.633**
Family size	0.089 NS
Ethnicity	-0.088 NS
Education	0.671**
Landholding	0.234*
Occupation	-0.039 NS
Extension participation	0.243*
Economic Motivation	0.254*
Experience in large cardamom farming	0.509**
Area of large cardamom cultivation	0.324**

NS: Non-Significant, \*: significant at 5% level of significance \*\*: significant at 1% level of significance. The table value of the Pearson correlation coefficient at a 5% level of significance is 0.214 and at a 1% level of significance is 0.254.

There was a negative and significant relationship between the age and entrepreneurial behavior of respondents. The result agreed with the findings of Chaudhari (2006). The study revealed that family size and ethnicity were not correlated with entrepreneurial behavior. Kumar (2012) and Barik (2013) also found similar results. The results indicated that education was positively and significantly correlated with the entrepreneurial behavior of respondents and the result was in conformity with the findings of Bharad (2007), Gowda (2009) and Nagesha (2006). Landholding was found to be positively and significantly related to entrepreneurial behavior, similar to the findings of Gowda (2009) and Nagesha (2005). Similarly, extension participation of respondents was found to be positively significant with the entrepreneurial behavior of respondents. Kumar (2012), Bharad (2007) and Gowda (2009) also found similar relations. Economic motivation also had a positive and significant



correlation with the entrepreneurial behavior of respondents. Economic motivation provides the stimulus and motivates people to work towards achieving sound economic status. Consequently, they opt for adopting new technologies in agricultural practice. The result was in accordance with the findings of Kumar (2012). Area of large cardamom cultivation and experience in large cardamom farming also had positive and significant relationships with entrepreneurial behavior.

## **CONCLUSION**

A greater proportion of large cardamom growers in the study area were found to have a medium level of innovativeness, decision-making ability, information-seeking ability, risk orientation, leadership ability, and achievement motivation and a low management orientation which contributed to the overall medium entrepreneurial behavior of large cardamom growers in the study area. There were a significant number of farmers belonging to the low entrepreneurial behavior as and only a few numbers of farmers possessing high entrepreneurial behavior. The high number of farmers with low and medium entrepreneurial behavior and a low number of farmers with high entrepreneurial behavior have resulted in poor commercialization of large cardamom in the region. Socio-economic factors like educational status, landholding, extension participation, economic motivation, experience in large cardamom farming, and area of large cardamom cultivation were found to have a significant and positive impact on the entrepreneurial behavior of large cardamom farmers while age had a negative and significant effect. It is concluded that there is a high potential for increasing the number of large cardamom farmers with high entrepreneur behavior for commercializing large cardamom in the study area, but programs should be designed and implemented accordingly.

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## **Authors' contribution**

SS was the lead investigator and the initiator of the study. SS collected data and wrote the initial draft of this manuscript. BP, NRJ, JS, and KPT were responsible for the literature search, data generation and drafting of this manuscript. SS was responsible for the overall study design and finalization of the manuscript.

## **Conflict of Interest**

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

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